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ABSTRACT

Public universities' attitudes toward recent educational reforms affecting vocational education were examined through structured telephone interviews of personnel at state higher education agencies or coordinating boards and in the admissions offices of public flagship institutions in 48 states (Colorado and Nevada did not participate). Special attention was paid to attitudes toward the following reforms: unconventional transcripts; courses integrating academic and vocational content; interdisciplinary courses; tech prep; and applied associates degrees. Many large public universities appeared to be making sincere efforts to accommodate reform; however, those efforts largely took the form of minimal accommodation rather than innovation and adaptation. Some resistance or refusal to accommodate reform was found. The curriculum reforms examined were frequently seen at only 4 flagship institutions. In 35 states' flagship institutions, policies were in place to handle instances of the curriculum reforms, and in 12 states, the reforms were the subject of a current policy review. Unconventional transcripts have generated the least policy action and competency-based reforms have generated the most. (The report contains 25 references. Appended are explanations of the following: organization of the interviews; selection of institutions; identification of respondents; data coding and checking; and problems encountered and potential sources of error.) (MN)

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THE VIEW FROM HIGHER EDUCATION: PUBLIC UNIVERSITIES RESPOND TO EDUCATIONAL REFORM

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THE VIEW FROM HIGHER EDUCATION: PUBLIC UNIVERSITIES RESPOND TO EDUCATIONAL REFORM

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FOREWORD

Higher education plays an important role in determining the prospects for adopting and institutionalizing educational reform. Specifically, higher education is seen as endorsing or rejecting changes at the secondary level through the admissions process. The history of educational reform is replete with accounts that portray higher education as unsupportive of reform and as obstructing reform through inflexible admissions standards. In the present reform climate, higher education's role is as important as ever, but there has been little systematic inquiry into how colleges and universities are responding to reform.

This report presents findings from a 50-state survey of how public universities are responding to selected educational reforms in the admissions process. The survey consisted of structured telephone interviews of personnel in state higher education agencies and at flagship institutions in the 50 states.

This study provides valuable information for policymakers and reformers in government, secondary and postsecondary education, and independent education policy groups. It identifies reforms that pose challenges to conventional admissions practices, discusses the realities of the admissions process and the practical difficulties involved in accommodating these reforms, provides empirical data on how flagship public universities are responding, and reports on the extent to which formal policies have been adopted or are being developed to address these reforms in the admissions process.

INTRODUCTION

College admissions standards affect the implementation and survival prospects of secondary school reform. Supporters of the progressive education movement recognized this fact in the 1930s: "The reason for the nearly complete failure of the secondary schools to respond to the progressive stimulus seems to lie in the college-entrance requirements, which effectively determine the major part of the secondary school curriculum" (McConn, 1933, as cited in Tyack & Tobin, 1994, p. 467). The following comment from the Coalition of Essential Schools newsletter suggests that little has changed in the intervening half-century: ". . . ask any Essential school person to name the biggest obstacle to reshaping curriculum and assessment practices at the secondary level, and the answer inevitably turns to college admissions" (Cushman, 1994, p. 1). Do such comments reflect true barriers to reform, or do they reflect a perception among reformers that colleges and universities refuse to recognize and accommodate reform? To date, the evidence is limited to anecdotal reports of resistance by colleges (e.g., General Accounting Office [GAO], 1993; Nathan, 1995).

To the extent that reforms alter the way secondary school learning experiences are organized and recorded, recognizing and accommodating those changes in the college admissions process clearly affects the reform's acceptance by students and their parents, and thus by schools. If new courses and new ways of documenting student learning depart from the conventional language of Carnegie units and discrete academic disciplines in which most colleges frame their entrance requirements, the response by colleges may be a deciding factor in the ability of schools to support, adopt, and institutionalize the new approaches. The point is not that the admissions process should necessarily accommodate all reforms, but, rather, that acceptance by colleges is sufficiently important to the viability of reform that claims of resistance and obstruction deserve careful scrutiny and empirical assessment.

Relevance to Reforms That Target Students Who Are Not College-Bound

Some reforms explicitly target students who will not attend college—the so-called forgotten half—and, therefore, reformers concerned with this population might be unconcerned with winning acceptance by colleges and universities. However, while "non-college-bound" is an unambiguous category for policymakers and reformers, the realities of

students' plans and aspirations render it problematic. Consider the following evidence from High School and Beyond (HS&B) and the National Education Longitudinal Study (NELS):

- *Before senior year, many high school students—even in vocational programs—are undecided about their college plans.* When 1980 high school seniors were asked in the HS&B what their college plans had been in tenth grade, they were as likely to report having been undecided as they were to report having thought they would not attend college (21% in each group). Among students in general or vocational high school programs, about one-third said they were undecided about their college plans in tenth grade.[1]

- *Before senior year, many high school students—even in vocational programs—expect to complete a bachelor's degree.* In the NELS study of 1990, 60% of the students expected to attain at least a bachelor's degree. This does not simply reflect students in college preparatory programs: half of those in a general program and one-third of those in a vocational program expected to complete a bachelor's degree or higher.

- *Many of the forgotten half would have identified themselves as college-bound when they were in high school.* According to HS&B, among 1980 high school seniors who had not enrolled anywhere six years after high school or whose last enrollment was at a less-than-four-year institution (60% of the total), 41% had planned to attend college when they were in tenth grade, and 23% had said in twelfth grade that they expected to attain a bachelor's degree or higher. Only about one in three would have accurately identified themselves as non-college-bound when they were in tenth grade (the remaining 28% were undecided or had not thought about it).[2]

In short, the notion that high school students can be reliably classified as either college-bound or not is unrealistic: many are undecided about college, and many have college aspirations that will go unrealized. While this evidence supports reforms that seek to eliminate tracking and other high school program distinctions, it also means that reformers concerned with the forgotten half cannot assume that the target population can be identified while they are in school. These difficulties have important consequences for the

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[1] U.S. Department of Education, National Center for Education Statistics, High School and Beyond (HS&B) Senior Cohort Third Follow-up Study, Data Analysis System. The "undecided" group includes students who said they were not sure and those who said they had not yet thought about it.

[2] Examining first and longest enrollment yields comparable results, but last enrollment shows the largest percentage at four-year institutions.

course-taking decisions of students who will later constitute the forgotten half: students who are undecided should plan their curriculum so as to preserve their chances at college admission, and those who expect to attend should keep admission requirements in mind when choosing their courses. Moreover, students who do not plan to attend college might be well-advised to preserve their chances of attendance should their educational goals change in the future.

Specific Reform Efforts and Their Implications for College Admissions

In recent decades we have seen considerable ferment and experimentation in schools. When *Education Week* detailed the major reform efforts under way in the 1990s, dozens of independent national reform networks were identified (Olson, 1994). Many current strands of reform affect the credentials that students present to college admissions offices, whether through new curricula or new means of assessment. Because the high school transcript is one of the principal mechanisms colleges rely on to assess a student's preparation, and the only source for assessing whether a student has met curricular entrance requirements, changes to the way this information is recorded on transcripts pose a challenge to admissions procedures that assume standardized categories and formats. Confronted with such challenges, colleges must decide how the new information will be processed and interpreted in the admissions process.

The following is a brief description of selected reforms that have direct implications for the admissions process, with an explanation of how these innovations might be problematic for or conflict with the college admissions process.

Interdisciplinary Courses

Some reforms break down conventional disciplinary boundaries with interdisciplinary courses. When admission requirements are framed in terms of discrete subject areas—a near universal practice—it is not always clear how to map interdisciplinary courses to discipline-based requirements. If admissions offices do not count these courses toward requirements, or count them as electives rather than core courses, students taking such courses may have difficulty meeting entrance requirements.

Integrated Academic and Vocational Content

Another strand of reform seeks to integrate academic and vocational content in courses, blurring the traditional separation between the academic and vocational branches of the curriculum. These integrated or "applied academics" courses are intended to teach the same concepts as traditional academic courses, but with a greater emphasis on real-life, hands-on applications of those concepts so that they will be engaging and accessible to a wider range of students. By offering more academic content than traditional vocational courses, integrated courses improve the skills and knowledge of students who may not continue their education beyond high school (Stasz, Kaganoff, & Eden, 1994).

There is considerable variation in the way applied academics courses appear on high school transcripts.[3] College personnel who scan transcripts for courses identified as college preparatory may perceive the absence of such labels, or indeed the mere presence of the word "applied" in a course title, as signaling courses that lack the rigor of traditional academic courses—in other words, that they are "dumbed down" versions of the academic curriculum. In such cases, they may not count integrated courses toward subject area admission requirements. If the new courses do not satisfy requirements, or indeed if there is any doubt as to whether they will satisfy requirements, both college-bound students and those who are uncertain about their college plans will confront a powerful disincentive to enroll in applied academics courses.

Unconventional Ways of Recording Students' Knowledge, Skills, and Achievement

The movement to shift measurement of student learning and even graduation criteria away from accumulated Carnegie units toward demonstrated competencies represents a major departure from practices that have been in place for most of this century. College admissions procedures presuppose that the vast majority of schools record students' academic experiences and achievements as a series of discrete course titles with associated grades and Carnegie units, and curricular admission requirements are almost universally expressed in Carnegie units. In selective admissions settings, students' grades and rank in class are typically used (in combination with other factors such as standardized test scores, recommendations, and personal essays) to gauge their achievement relative to that of their peers.

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[3] In some cases, whether an applied academics course is designated as an academic course on transcripts varies with the teacher's certification.

Tech Prep or Applied Associate's Degrees

In addition to reform at the secondary level, curricular reform at the community college level may have implications for transfer admission. Policymakers have expressed concern that students completing a Tech Prep associate's degree may face limitations should they later decide to pursue a bachelor's degree (GAO, 1993; Northwest Regional Educational Laboratory, 1994). The ability of Tech Prep graduates from community colleges to transfer into baccalaureate programs has important consequences for students' future educational opportunities and, thus, for the attractiveness and viability of such programs.

Realities of the Admissions Process

The discussion thus far, like many discussions of these issues in the literature, makes four-year institutions out to be the villains: they obstruct reform by their stubborn adherence to the status quo and their refusal to accommodate innovation at the secondary or community college level. While many college personnel are indeed hesitant to overhaul their procedures in response to reform, there are justifiable reasons for this attitude that derive from the demands of the admissions function and the track record of reform.[4]

Information Processing Demands

A primary area of concern to admissions personnel is the sheer volume of applications to be processed: public institutions handle several thousand applications each year. High volume drives a need for generalizable procedures whereby the mass of applications can be classified and compared efficiently, equitably, and inexpensively. This translates to a strong bias in favor of classification mechanisms that are easily quantifiable and that can be reliably compared across students and schools. For the admissions director who must process several thousand applications in a matter of months on a limited budget, the definition of the college preparatory curriculum as a set of discrete courses with relatively standard titles; the uniform scheme for measuring course taking that the Carnegie system provides; and the use of standardized tests and class rank as common metrics for academic preparation and achievement all hold great appeal. The following statement, from

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[4] The discussion that follows draws heavily on two reports based on meetings of reformers and college admissions personnel: Houghton, 1993, and American College Testing and The College Entrance Examination Board, 1994.

a 1993 forum on college admissions and school reform organized by the National Governors' Association (NGA), illustrates the admissions director's dilemma:

> Most of our universities don't give individual attention to the individual when admitting. We don't really look. It's mechanistic. . . . I don't see us sitting down and reading an application portfolio from every student. . . . [W]e will never be funded to perform that task for all applicants. . . . The university has rhetoric about what it wants, while the admissions officers have to triage the applicant pool. (Houghton, 1993, p. 8)

The Importance of Evaluating Students' Academic Preparation

Admissions staff may face pressure to maintain or increase enrollments and they may want to give certain marginal candidates a chance to prove themselves in the classroom, but they also have a responsibility to determine students' readiness for college-level work. If a poorly prepared student is admitted and then drops out or is dismissed due to unsatisfactory academic performance, it reflects badly on the judgment of the admissions office. More importantly, the offer of admission may not have served the student's best interests. Furthermore, public institutions must ensure accountability and equity in their admissions process. These factors engender a strong preference among admissions personnel for "proven" approaches to assessing a student's preparation and an aversion to new approaches.

That said, the information available for this assessment is quite limited. This is especially true in the case of curricular requirements. Even when a student's transcript shows the required number of credits in the required subject areas, the actual content and rigor of those courses is often unknown. Thus, the institutionalized practice of requiring a standard list of courses on transcripts reveals relatively little about a student's readiness for college work. Indeed, this is one of the factors that drives institutions to rely on standardized test scores in assessing a student's preparation.[5]

Practical Challenges in Accommodating the Range of Reforms

By relying on a combination of Carnegie units, high school class rank and grades, and standardized tests, admissions offices can classify and compare students from schools that vary widely with respect to resources, curricula, grading standards, academic rigor, graduation requirements, and many other factors. When institutions are asked to

[5] It should be noted, however, that students who take a conventional college preparatory curriculum average higher scores on standardized achievement tests than students with less rigorous programs (e.g., see McCormick & Tuma, 1995).

accommodate reform, the operational implications are daunting. There are many different strands of reform operating nationwide, and implementing schools typically adapt reforms to meet their particular needs. The prospect of discarding the few common elements that facilitate relatively objective comparisons across schools and developing new procedures for the range of reform *as realized in schools* is deeply worrisome to admissions personnel. Consider the following statements from the 1993 NGA forum and from a 1994 meeting of members of the Association of Chief Admissions Officers of Public Universities (ACAOPU) that was sponsored by American College Testing (ACT) and The College Board:

> I get nervous when we talk about removing my ability to rank applicants. . . . So far our discussion has centered on removing those things from a high school record that enhance my ability to quickly assess how a student has done. (Houghton, 1993, p. 8)

> Admissions officers are very dependent on fair, external, objective assessments. . . . [They] have to justify their decisions to various constituencies and they can't do that without national assessments. (Houghton, 1993, p. 8)

> We need to be able to distinguish between students, and a portfolio isn't realistic. . . . Currently, we evaluate students on the margin using additional information, but we just can't do it for everyone. (ACT and The College Entrance Examination Board, 1994, p. 5)

Skepticism About Reform

Finally, many admissions directors are skeptical about whether reform will endure. They are reluctant to overhaul their procedures to accommodate what may be no more than a short-lived fad. To some extent this is a chicken-and-egg dilemma, since as previously noted, the response by universities will affect reform's prospects for adoption and survival. Nevertheless, the historical record shows that many reforms have shown little staying power. Indeed, the practice of reporting course taking in Carnegie units is one of the few reforms that has endured (Tyack & Tobin, 1994).

Will It Be Different This Time?

In the current round of reform, more communication has taken place between reformers and college personnel, and there are some indications that colleges may be recognizing their role in supporting reform efforts. As noted above, both the NGA and the sponsors of the major college admissions tests have convened reformers and admissions personnel to discuss reform efforts and the importance of accommodation at the college level. The reports from these meetings acknowledge the participants' common and unique interests and the practical difficulties in aligning reform and admissions practices. Although some promising developments are highlighted in the NGA report, little is known about what changes took place after the participants returned to their daily work and local constituencies.

There are other indications of increased attention to the relationship between reform and college admissions. For example, the State Higher Education Executive Officers (SHEEO) and the Education Commission of the States (ECS) have issued two reports on the topic. The first, from SHEEO, summarizes reform efforts and collaborative initiatives across the 50 states (Rodriguez, 1994). The second, a joint SHEEO-ECS publication, is a case study of admission requirements at public institutions in ten states (Rodriguez, 1995).[6] At the state level, California's Education Round Table has reported on the relationship between K-12 reform and higher education (Intersegmental Coordinating Council, 1995). Oregon is instituting a proficiency-based admissions system; Wisconsin has been piloting such a system; and other states are initiating similar experiments. The Center for Occupational Research and Development (CORD), which develops curricula that integrate academic and vocational content, has convened university representatives to acquaint them with the content and objectives of these courses. Finally, the presidents of 24 private institutions, including many of the nation's most prestigious and selective private institutions, signed a statement endorsing reform efforts and acknowledging their role in supporting reform (the statement was drafted by the Coalition of Essential Schools).[7]

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[6] The latter publication acknowledges the need to support K-12 reform, but primarily presents admission requirements as colleges have traditionally used them: as a lever to force change at the secondary level.

[7] Although this statement has been hailed as an important step in gaining support from higher education, it is remarkably vague and lacks any firm commitment to accommodate reform. The institutions acknowledged "that institutions of higher education must be partners in bringing forth the changes so urgently needed"; endorsed reforms that "emphasize rigorous independent thinking and the direct engagement of students in serious work"; and promised to "welcome applications" from students at schools

The fact that this issue has received attention from the ECS, the NGA, ACT, The College Board, and highly selective private institutions attests to its importance. Other than anecdotal reports about resistance by colleges, little is known about how college admissions offices are responding to educational reform efforts. The present study aims to subject those claims to empirical scrutiny and to provide reformers and policymakers with better information about this important issue.

Overview of the Study

This study is based on structured telephone interviews of personnel at state higher education agencies or coordinating boards and in the admissions offices of public flagship institutions. The following questions were asked:

- Who sets curricular admission requirements?
- Who decides whether a candidate meets curricular requirements?
- How often do admissions personnel at public flagship institutions encounter the following?
    - unconventional transcripts (e.g., lacking Carnegie units or grades)
    - courses that integrate academic and vocational content
    - interdisciplinary courses
- In such cases, what procedures are used to determine a candidate's eligibility for admission?
- In the case of transfer admission, what are the procedures for evaluating candidates who have completed a Tech Prep or applied associate's degree?
- Are these practices under review?

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implementing those reforms. It is also worth noting that these institutions already give applications far more individual attention than their public counterparts, and thus are far better prepared to process nonstandard applications.

The study consisted of a series of telephone interviews with personnel in state higher education agencies or coordinating boards and public flagship institutions in 48 states. (We were unable to gain cooperation from flagship institutions in Colorado and Nevada.) The scope of the study did not permit us to interview personnel at more than one public four-year institution in each state. We chose to focus on flagship institutions because they generally enroll more students than other single campuses, and because they often set a standard that other public institutions seek to emulate. However, because these institutions are more selective and prestigious, they may also be under less pressure to innovate or adapt in response to reform efforts. See Appendix A for a detailed discussion of sampling considerations, interview procedures, and coding of interview responses.

FINDINGS

Our interviews explored several aspects of the university admissions process as it relates to selected reforms. This section begins with a general description of curriculum requirements for admission to the nation's public flagship universities and who sets these requirements. This is followed by a discussion of the locus of responsibility for deciding whether particular courses meet these requirements (i.e., at the campus, segment, or state level). The final section addresses how often admissions staff encounter selected reforms, and how they respond.

Curriculum Requirements

When screening applicants for admission, a member of the admissions staff usually compares the course titles on a high school transcript to a list of courses required for admission. Typical requirements include four years of English, three years of science, three years of mathematics (usually Algebra II or higher), three years of social studies, and two years of foreign language (often restricted to a single language). Matching courses on a transcript to a set of listed requirements can be a complicated and ambiguous task. While some course titles clearly identify the content and level of the course (e.g., Spanish I), it may be less clear what is taught in a course titled Humanities or Principles of Technology and how to map that content to subject area requirements. In addition, different schools may assign different titles to courses with comparable content. Finally, admissions staff

may be uncertain about whether the course should count toward admission requirements if the level of academic challenge presented by the course is unclear.

Who Sets Requirements, and Who Decides Which Courses Meet Them?

All but one of the 48 states in the study had set forth requirements or strong recommendations for applicants' high school curriculum. In 21 states, the state higher education coordinating board required high school courses in various subjects for admission to any public four-year institution in the state.[8] In many cases, the state set forth minimum curriculum requirements, and institutions were free to impose additional requirements. Curriculum requirements were set by university segment offices in seven states, and in 19 states, each institution set its own requirements. One state, Kansas, had neither curriculum requirements nor strong recommendations since in-state high school graduates are automatically eligible to attend any public four-year institution.[9]

Decisions about which courses meet subject-specific requirements or recommendations were made by individual institutions in 36 states (Figure 1). In 12 states, this authority rests with a state-level agency such as the higher education coordinating or governing board or with a university segment office. In a few states, this responsibility was delegated to high schools or school districts.[10]

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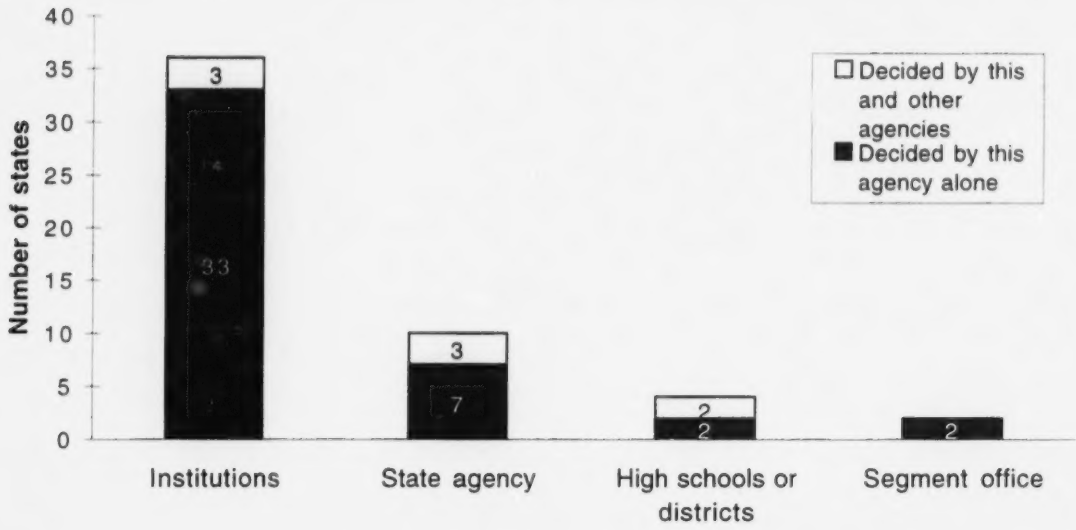
[8] From this point on, this report refers to curriculum guidelines as "requirements," although the states or schools may characterize them as strong recommendations. Many states with requirements may in practice treat them as strong recommendations: curricular requirements may be waived for older students applying for admission many years after leaving high school and for applicants with special talents.

[9] However, students completing the "Regents Recommended Curriculum" may receive special treatment, and out-of-state candidates are evaluated with respect to recommended courses.

[10] Four states make these decisions at more than one level, and thus are counted more than once in these totals (see Figure 1).

Figure 1
Among States Surveyed, Locus of Decisionmaking About Whether Particular Courses Satisfy Entrance Requirements



Admissions counselors had a range of procedures for mapping courses to requirements. The most rigid method was to compare all course titles on the transcript to a list of approved courses (applicable only for in-state applicants). Under this approach, a list of approved courses was typically compiled for the whole segment or for all public four-year institutions in the state. Courses not on the list were either not credited towards requirements or were scrutinized separately to determine their applicability. Admissions staff may make these decisions themselves, consult with faculty members, or turn them over to a faculty committee. While highly centralized procedures were found in only one-quarter of the states surveyed, they were somewhat more common in states with a consolidated governing board for all public higher education than in states with a coordinating board or planning agency (8 out of the 23 states that had governing boards, as opposed to 4 out of the 25 states that had coordinating boards or planning agencies).[11]

The University of California (UC) provides an example of a highly centralized procedure for relating courses to requirements. UC's Board of Admissions and Relations

[11] State governance information is taken from McGuinness, Epper, and Arredondo (1994, pp. 9-12). If a state had more than one kind of governing body, it was categorized under the more centralized structure. Some coordinating boards have program approval authority, while others do not: they have less authority than governing boards but more than planning agencies.

with Schools (BOARS), a faculty committee of the Academic Senate, is responsible for admission requirements (known as the "a-f" subject requirements). A single systemwide admissions office compiles a school-by-school list of courses at California schools that fulfill the requirements. This master list is updated annually: the Director of Admissions invites California high schools and school districts to submit descriptions of new or revised courses that set forth how the courses meet the guidelines. Central office staff then decide which courses meet the requirements, in consultation with BOARS or other faculty as necessary. Once the list has been updated, admissions staff at each UC campus use the list to determine whether candidates have met the eligibility requirements. It is important to recognize that even elaborate procedures such as these do not eliminate ambiguity from the admissions process because comparable information relating courses to requirements is not available for out-of-state high schools. In these cases, campus admissions staff use guidelines to assess courses presented by out-of-state students and make direct inquiries to high schools as necessary.

Responding to Selected Reforms

This section reports on what admissions personnel said about their experiences with specific reforms that complicate standard admissions procedures, and how they react to the attendant difficulties and ambiguities. Because these questions concerned admissions procedures, the findings reported here are based on interviews with respondents at the level where admissions policy is implemented—usually the individual campus.

In addition to questions about how certain reforms are handled in the admissions process, we also asked respondents how often they encounter instances of each reform. In general, these reforms were encountered only occasionally: few respondents reported that a reform was never encountered (at most four states for a given reform) or frequently encountered (at most three states).

Although we asked respondents whether a "formal policy" was in place for responding to selected reforms, we found that this term was subject to varying interpretations. As the interview progressed, it sometimes appeared that what a respondent had characterized as formal policy was a policy of making case-by-case judgments. Nevertheless, in the few cases where these questions were asked of both institution- and

higher-level respondents, the two sources usually agreed: for each type of reform there were one or two states where a system- or segment-level respondent indicated the presence of a formal policy while an institutional representative did not; and there were no instances of the reverse (formal policy according to an institution-level respondent, but none according to a segment- or state-level respondent).[12]

The discussion and tables that follow thus combine formal policies and the strategies used for case-by-case evaluation. While in some cases we were unable to elicit more detail than "professional judgment," further probing often revealed the strategies admissions personnel use to make such judgments.

In general, we found that the procedures reported below were the same for in-state and out-of-state candidates. For any given reform, respondents in from four to eight states indicated that they had a different procedure for out-of-state candidates. In most cases, this amounted to seeking additional information from the school.

Interdisciplinary Courses

Interdisciplinary courses combine content from two or more academic disciplines. A common combination is to merge literature and social studies curricula into a Humanities course. Such courses may also include content from the arts. Another example is Integrated Science, which brings together material from biology, chemistry, physics, and earth science. Interdisciplinary courses are often offered in double-period blocks and carry two courses' worth of credits.

Most of the admissions staff interviewed had seen interdisciplinary courses on transcripts, though not very often. Admissions personnel in only two states (Louisiana and Texas) reported frequently encountering such courses, and respondents in four states said they had not encountered them. Institutional respondents in 18 states indicated the existence of a formal policy for dealing with integrated courses.[13] Finally, respondents in three states reported that the policy for handling such courses was under review (including respondents in coordinating boards or central offices).

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[12] It was rare to have responses on these items from more than one level (i.e., from three to seven states, depending on the specific reform being discussed).

[13] However, as noted earlier, "formal policy" was subject to varying interpretations. When responses from personnel at coordinating boards or central offices are included, 20 states have formal policies.

A deputy director at the Illinois State Board of Education stated that interdisciplinary courses are "not a big deal" for admissions staff to evaluate, since course content is often clear and academic rigor is rarely questioned. Nevertheless, in one state (Tennessee), we were told that interdisciplinary courses are not creditable toward subject area requirements, and respondents in three other states (Connecticut, Maine, and West Virginia) said that interdisciplinary courses are rarely applied toward requirements.

Table 1 summarizes the practices in place for handling interdisciplinary courses. We found that interdisciplinary courses often, but not always, fulfill entrance requirements for admission to flagship universities. In states where admissions counselors do not have an approved course list and where the mapping of courses to requirements is not obvious, admissions staff may contact the high school to clarify the course content, submit the case to a state agency for a decision, or send it to a faculty committee that reviews the course content. In 19 states, respondents said they seek more information about a course from the high school or the student if subject area content is unclear.

Respondents in ten states reported a procedure whereby a two-unit interdisciplinary course is equated to two units in required subject areas. The question then becomes which subject areas to credit; rigor of the course is generally not at issue. Indeed, several respondents commented that interdisciplinary courses are often designated as honors or advanced courses. Moreover, many students with such courses had met or exceeded admission requirements through other (standard) courses, obviating the need to map interdisciplinary courses to subject area requirements.

A less formal practice is for admissions counselors to use their own judgment in deciding how to allocate interdisciplinary units (six states). This may result in less consistent decisions than when using other approaches. A major factor in this judgment is counselors' personal knowledge of the high school and even specific courses at familiar "feeder" schools. In the absence of specific knowledge about a school, counselors may rely on the course title alone, with little or no additional information.

Table 1
Summary of Admissions Officers' Practices When Evaluating Interdisciplinary Courses at Flagship Institutions in 48 States

	Get more info. from high school or student	Refer to statewide list	Follow school's designation	Professional judgment	Two interdisc. credits equal two subject area credits	Other[1]	Do not recognize for subject area requirements[2]	Have not encountered
Total[3]	19	6	6	6	10	14	1	4
Alabama				√				
Alaska	√					√		
Arizona	√							
Arkansas	√							
California		√				√		
Connecticut	√					√		
Delaware	√							
Florida					√			
Georgia					√			
Hawaii				√				
Idaho	√				√			
Illinois			√					
Indiana					√			
Iowa			√					
Kansas						√		
Kentucky								√
Louisiana	√					√		
Maine						√		
Maryland								
Massachusetts								√
Michigan						√		
Minnesota	√			√	√			
Mississippi	√							
Missouri								√
Montana		√						
Nebraska	√							
New Hampshire	√							
New Jersey	√				√			
New Mexico	√					√		
New York				√				
North Carolina					√			
North Dakota		√	√					
Ohio						√		
Oklahoma	√							
Oregon	√	√	√					
Pennsylvania	√							
Rhode Island						√		
South Carolina		√				√		
South Dakota	√		√					
Tennessee						√	√	
Texas	√							
Utah					√			
Vermont					√			
Virginia				√		√		
Washington			√					
West Virginia		√						
Wisconsin	√					√		
Wyoming				√	√			√

[1] Includes the following responses: apply the course to whichever area has a deficiency; count the course as elective only; award partial credit for the course; rely on the course title alone; faculty review such courses; and other unique or idiosyncratic responses. Some admissions staff offered these responses in addition to other procedures.

[2] May count as elective in Tennessee. Excludes states where these courses have not been encountered.

[3] Totals do not sum to 48 because more than one practice may have been reported in a given state.

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Integrated or Applied Academic Courses

Integrated courses also combine content from normally distinct curricular areas, but instead of combining academic disciplines, integrated courses combine academic and vocational content, or apply hands-on instructional approaches to academic material. Principles of Technology, a two-course applied physics sequence developed by CORD, is a familiar integrated course. Applied Math, Applied Biology/Chemistry, Applied Communications, and Business English are other examples.

Most respondents reported having seen integrated courses on high school transcripts. However, admissions personnel at flagship institutions in only three states (Arkansas, Florida, and Louisiana) said that they see such courses frequently.

Despite the promise of applied courses, some flagship university personnel expressed skepticism about their academic rigor. Some admissions counselors thought that the courses represent a "dumbing down" of college-prep material; thus, we found that ten flagship universities do not count any integrated courses toward subject requirements.[14] Respondents in 11 other states said they were rarely counted.

What were the common practices in place for mapping integrated courses to subject area requirements? Respondents in 27 states indicated that some formal policy was in place for handling these courses.[15] As with interdisciplinary courses, the most common approach to deciding whether to count integrated courses was to seek more information about the course (22 states) (Table 2). Referring to a list compiled by a segment office or state agency was practiced in 11 states. (This option relies on a panel at the university, segment, or state level having already evaluated courses to determine which ones satisfy admission requirements.) Faculty review of courses was also a fairly common practice (eight states), as was accepting courses only from certain familiar high schools, where admissions counselors are acquainted with curricula and standards and thus can judge a student's preparation more accurately (seven states).

Three states' flagship universities accepted applied courses, but at less than full credit; a common example was to accept CORD's Applied Math I and II (a two-year

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[14] The ten states are Connecticut, Hawaii, Illinois, Indiana, Kansas, Louisiana, Maine, Massachusetts, New Jersey, and Vermont (excludes states where integrated courses have not been encountered).

[15] When responses from personnel at coordinating boards or central offices are included, 28 states have formal policies.

sequence) as the equivalent of Algebra I.[16] In such cases, Applied Math I alone would not be counted toward the requirement. Another approach was to count applied courses only if students demonstrated their learning through some external means such as passing a subsequent academic course (e.g., Algebra II) or through test scores. More than half of the universities evaluated applied courses individually and accepted some such courses, but not all. In another study, McCormick (1994) found that in some states Principles of Technology was counted toward lab science requirements if taught by a science teacher, but otherwise was not counted or was counted only as an elective.

An associate admissions director at the University of Wisconsin–Madison commented that competency testing helps demonstrate to those reviewing applied academics courses what has been taught in those courses. To the extent that integrated courses are successfully teaching academic content, competency tests have the potential to increase acceptance of integrated courses for meeting university entrance requirements because they provide independent indicators of student learning.

In six states, admissions personnel follow the subject designation(s) assigned by the high school or district. For example, in Illinois, each high school produces a guidebook of course descriptions that states which college entrance requirement, if any, each course fulfills. In 1995, the Washington Higher Education Coordinating Board shifted the responsibility for mapping courses to admission requirements from public universities to school districts. The new procedure, which was intended to support reforms in high schools around the state, allows high schools to create their own interdisciplinary or integrated courses and to negotiate with their district for approval in meeting admission requirements. In Washington and in states where there is a statewide list that maps specific courses to admission requirements, high school students can know with a high degree of certainty which of their school's courses will meet state college and university entrance requirements.

Respondents in eight states indicated that the handling of integrated courses in the admissions process was the subject of current policy review. Those states were Indiana, Iowa, Missouri, Nebraska, Pennsylvania, South Dakota, West Virginia, and Wisconsin.

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[16] This seems both reasonable and appropriate given the typical Applied Math curriculum: an evaluation of CORD's Applied Math curriculum found that students who completed both courses showed comparable achievement to students who completed Algebra I. This practice was not necessarily uniform across all integrated courses.

Table 2
Summary of Admissions Officers' Practices When Evaluating Integrated Courses at Flagship Institutions in 48 States

	Get more info. from high school or student	Refer to statewide list	Faculty review course content	Accept only from certain high schools	Professional judgment	Other[1]	Do not recognize for subject area requirements[2]	Have not encountered
Total[3]	22	11	8	7	6	14	10	3
Alabama					√			
Alaska	√		√					
Arizona	√					√		
Arkansas		√				√		
California		√		√				
Connecticut							√	
Delaware						√		
Florida		√				√		
Georgia	√							
Hawaii							√	
Idaho		√		√				
Illinois							√	
Indiana							√	
Iowa	√		√	√				
Kansas							√	
Kentucky	√	√						
Louisiana							√	
Maine							√	
Maryland						√		
Massachusetts						√	√	
Michigan				√				
Minnesota	√		√		√	√		
Mississippi								√
Missouri						√		
Montana		√						
Nebraska	√							
New Hampshire	√					√		
New Jersey							√	
New Mexico	√		√	√				
New York					√	√		
North Carolina	√	√						
North Dakota		√						
Ohio	√							
Oklahoma	√							
Oregon	√	√		√	√			
Pennsylvania	√							
Rhode Island								√
South Carolina						√		
South Dakota	√	√		√				
Tennessee	√							
Texas	√		√					
Utah	√		√					
Vermont							√	
Virginia	√				√			√
Washington						√		
West Virginia	√							
Wisconsin	√		√			√		
Wyoming	√	√	√		√	√		

[1] Includes the following responses: follow the high school's designation as "college prep"; count the course as elective only; award partial credit for the course; accept CORD curriculum only; count the course if taken with another course; decision based on student's overall record, not course content; and other unique or idiosyncratic responses. Some admissions staff offered these responses in addition to other procedures.

[2] May count as elective in Massachusetts. Excludes states where these courses have not been encountered.

[3] Totals do not sum to 48 because more than one practice may have been reported in a given state.

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Unconventional Transcripts

Reformers who support performance- or competency-based education argue that high school graduation should be contingent on students' knowledge and skills rather than seat time in particular classes (Nathan, Power, & Bruce, 1995).[17] In this strand of reform, schools are replacing or supplementing traditional grades and Carnegie units with lists, descriptions, or assessments of specific competencies that students have achieved. While traditional multiple-choice exams can be used to demonstrate some competencies, schools adopting this approach often use alternative assessments such as performance tasks, portfolios, or senior projects. These methods require students to produce a tangible product, generate their own answers, or provide a performance of some kind. Several of these methods may be combined to produce a fuller picture of a student's abilities. Because replacing conventional grades and Carnegie units with a variety of idiosyncratic assessments would result in vastly different student records, these reforms are fundamentally incompatible with the way colleges assess students' high school preparation. The new assessments could not be easily compared across schools, districts, or states; thus, they raise grave concerns among admissions personnel who place a high priority on the ability to use objective, reliable criteria to compare all candidates' preparation and achievement.

Some States Are Developing or Testing Competency-Based Admissions Systems

Despite these difficulties, public higher education systems in two states have embarked on serious efforts to accommodate and support these changes in their admissions procedures, and other states are beginning similar projects. In these states, representatives of schools and higher education institutions are collaborating to develop a competency-based admissions process. For example, in 1993 the University of Wisconsin's Board of Regents endorsed developing a competency-based admissions process that would supplement, but not supplant, the existing system based on traditional measures (Rodriguez, 1995). To test the feasibility of such a process, the university system has completed a pilot study involving eight high schools. Students from schools in the study submitted two applications each: one that included a conventional transcript and one that

[17] The terms "performance-based," "proficiency-based," and "competency-based" are used interchangeably throughout this report.

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included a profile of competencies in place of a transcript.[18] Participating admissions staff were divided into two groups that examined these applications independently. In the vast majority of cases, the admission decision was the same using either approach.[19] This outcome has been welcomed by the university, which is advising schools and students that they can use alternative measures to document their progress. However, to date, few schools have implemented competency-based assessments. Similar projects are under development in other states.[20]

Oregon is moving most ambitiously to incorporate competency-based assessments in the admissions process. The state's reforms follow the development of new proficiency standards and assessment systems required by the 1991 Oregon Education Act for the 21st Century (and related legislation passed in 1995). The state is currently piloting high school curricula that support the Certificate of Initial Mastery (CIM), with Certificate of Advanced Mastery (CAM) programs to follow. The CIM is awarded to students who have demonstrated mastery of specified skills and knowledge in specific subjects by passing competency tests containing both written and performance-based items. Although the standards for the CIM were developed for tenth-grade skill levels, students can take the tests at any time. In 1998-1999, the first year that districts will be required to offer CIM programs, CIM-based curricula will be taught and tests will be given for English and mathematics only; additional tests and related curricula will be phased in over the next four years for science, social sciences, the arts, and second languages. A small number of schools are already reporting proficiencies in English and mathematics, in addition to grades and Carnegie units.

CAM curricula are being developed for the last two years of high school. Programs will include college preparatory academic and occupationally oriented courses (students will choose among six broad industry areas). State policymakers are developing an associated CAM assessment system that will be linked to postsecondary admissions tests. In 2000-2001, CAM-based programs will be introduced on a voluntary basis, with students having

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[18] Competencies were grouped by subject area corresponding to traditional admission requirements: English/language arts, mathematics, science, social studies, and foreign language. Under each subject, students were rated on three to six competencies, using a five-point scale.

[19] Under the pilot study, students admitted under either approach were granted admission to the university.

[20] For example, the state of Washington is developing a project similar to Wisconsin's. Competencies will be reported in English, mathematics, science, social studies, world language, and art. The system will be pilot-tested in three schools (Sherman & Scrima, 1997).

the option of participating in the CIM and CAM programs (even though the legislation requires schools to offer them).

Paralleling the development of the CIM and CAM programs, the Oregon State System of Higher Education is developing a proficiency-based admissions process (**P**roficiency-Based **A**dmissions **S**tandards **S**ystem, or PASS). When fully implemented, students will be assigned proficiency ratings in six content areas (mathematics, science, social sciences, foreign language, humanities/literature, and fine and performing arts). In each content area, students will be rated on from three to eleven proficiencies, for a total of 49 proficiencies across the six content areas (Conley & Tell, 1996). Beginning with the class entering in fall 2001, admission to Oregon public institutions will be by proficiencies or by conventional grades and subject area requirements. PASS is projected to be fully implemented for the class entering in fall 2005, at which point admission will be primarily by proficiencies, whereas admission by the conventional criteria will be through a waiver process. Although proficiencies will be the preferred method for admission to Oregon public universities, schools will continue to report course grades and Carnegie units on transcripts to accommodate students applying to other institutions.

By implementing a uniform statewide competency-based assessment system, these projects mitigate one of the difficulties of competency-based assessment: lack of comparability across schools and districts. While these records will not have the same degree of comparability as standardized achievement tests, they offer a degree of comparability that is at least as good as existing within-school measures (i.e., grades and class rank). The problem of comparability remains, however, to the extent that students may apply to out-of-state institutions (e.g., Oregon high school graduates who apply to the University of Washington).[21] The relative similarity of the assessment systems being developed in different states offers some promise that admissions staff in one state may not have much difficulty interpreting assessments from another state; however, as more states develop their own idiosyncratic systems, the problem might become unmanageable. From the perspective of institutions that genuinely want to support this reform effort, an ideal outcome would be for schools in many states to adopt a standard scheme for competency-based assessment.

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[21] According to PASS documentation, an effort is being made to acquaint admissions personnel in other states with the new assessments "to ensure that PASS provides better information about students' performance than do current transcripts" (Conley & Tell, n.d., p. 7).

Current Practices

In our interviews, we asked admissions personnel about their experiences with unconventional transcripts (i.e., lacking grades and Carnegie units).[22] In general, respondents reported encountering unconventional transcripts less often than the curricular reforms discussed above. In many states, competency-based reforms had not moved beyond the discussion and planning phase. Respondents at four flagship universities reported no experience with unconventional transcripts, while in most other states we were told they were a rare occurrence (our respondent at the University of Florida was the only one who reported frequently seeing unconventional transcripts). While some respondents commented that a fraction of high schools were beginning to use competency-based assessments, these schools typically continue to report course grades and Carnegie units in traditional subjects. This is consistent with findings by Nathan, Power, and Bruce (1995) in their study of 29 high schools with competency-based graduation requirements:

> [M]ore than half of the schools interviewed have had to maintain traditional grading systems because of admissions policies at colleges and universities. They feel that they cannot eliminate grades entirely . . . because it would adversely affect their students' chances of being accepted by colleges. . . . Schools which have a large number of students applying to state universities, which are usually not equipped to handle alternative transcripts, are forced to report traditional grades and are therefore limited in the scope of change they can realistically make. (pp. 19-20)

In these cases, there is no need for universities to modify their procedures and no incentive to attend to the new assessments.

Not all unconventional records were the result of competency-based assessments. Indeed, the only unconventional records that many admissions officers had seen were from home-schooled students, rather than from reforming high schools. A few respondents mentioned seeing narrative evaluations in place of grades, but they reported that it was usually a simple matter to translate these into grades. Some respondents mentioned that most unconventional transcripts came from a few familiar feeder schools (some of them private), international baccalaureate programs, or foreign countries. They further noted that most students in this category were clearly qualified for college entry; thus, the transcript did not pose a barrier.[23]

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[22] This category of reform was intentionally defined broadly in order to ascertain procedures in place for handling any records that lack the usual means to rank and classify students.

[23] It is interesting to note that despite all the policy discussion about changing assessment methods and transcript content in public secondary schools, many of the unconventional records encountered come from private high schools and international schools.

Despite the infrequency of unconventional transcripts, respondents in 11 states indicated that a formal policy existed for handling them in the admissions process, and respondents in six states indicated that the policy for evaluating such transcripts was under review.[24]

The most common approach cited by admissions staff was to rely more on students' test scores (or to require test scores if they were not otherwise required); this procedure was mentioned by respondents at 33 flagship institutions (Table 3). This indicates that one of the primary purposes of competency-based assessment is being defeated in these states. Competency-based assessments are intended to provide a more precise, detailed, and well-rounded reflection of student accomplishment and ability than a list of semester courses with grades; however, if admissions staff increase their reliance on standardized test scores (which arguably provide *less* information than grades), this practice undermines the reform.[25] Some university personnel recognize this conundrum and avoid falling back on standardized tests. For example, the admissions office at the University of Wisconsin–Madison reported that they avoid replacing grades with test scores when they lack conventional measures, instead seeking additional indicators of a student's achievements (such as writing and other work samples; teacher, tutor, or employer recommendations; and evidence of college-level course taking).

Another common approach was to seek more information about a student's work from the high school or the student (24 states). This might include requesting and reviewing an essay by the student. Less frequent practices included asking a department or faculty committee to evaluate the application, translating narrative evaluations into grades (four states each), and interviewing the applicant by phone or in person (one state).[26] None of our respondents indicated that students with unconventional transcripts are automatically disqualified.

Our interview findings indicate that students with unconventional transcripts applying to public flagship universities are not *necessarily* at a disadvantage in the admissions process. However, this situation results partly, and perhaps substantially,

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[24] When responses from personnel at coordinating boards or central offices are included, 13 states have formal policies.

[25] Recall, however, that "unconventional transcripts" is a broad category that includes home-schooled and international students as well as students from schools implementing competency-based assessments.

[26] These responses were not mutually exclusive: a single respondent could, and often did, mention several courses of action.

because such transcripts are relatively rare: institutions can afford the additional effort required to process these applications as long as they are few in number (this applies for home-schooled students as well). If the practice were to become more common, these students might face some disadvantage as admissions offices take steps to minimize the extra effort required. For example, they might routinely weight test scores more heavily, resulting in still greater dominance of standardized tests in determining college admission. Moreover, the absence of conventional measures may redound to students' disadvantage. When competing directly with other students for limited spaces, those with unconventional records may appear less qualified simply by virtue of the fact that fewer conventional criteria are available to help them stand out (e.g., grades, class rank, and a rigorous curriculum as measured by Carnegie units in academic subjects).

Table 3

Summary of Admissions Officers' Practices When Evaluating Unconventional Transcripts at Flagship Institutions in 48 States

	Rely more on test scores	Get more info from high school or student	Professional judgment	Translate narrative to grades	Other[1]	Have not encountered
Total[2]	33	24	8	4	7	4
Alabama	√					
Alaska		√	√		√	
Arizona		√				√
Arkansas	√	√				
California	√					
Connecticut			√			√
Delaware			√			
Florida	√				√	
Georgia			√			
Hawaii	√	√		√		
Idaho	√	√		√		
Illinois	√					
Indiana	√					
Iowa	√	√				
Kansas	√					
Kentucky						√
Louisiana		√				
Maine					√	
Maryland	√	√			√	
Massachusetts	√	√				
Michigan		√				
Minnesota	√	√	√			
Mississippi	√	√			√	
Missouri	√					
Montana	√					
Nebraska	√	√				
New Hampshire	√	√	√	√		
New Jersey						√
New Mexico	√					
New York		√				
North Carolina	√					
North Dakota	√	√			√	
Ohio			√		√	
Oklahoma	√					
Oregon	√	√				
Pennsylvania	√			√		
Rhode Island	√		√			
South Carolina		√				
South Dakota	√					
Tennessee	√					
Texas	√	√				
Utah		√				
Vermont	√	√				
Virginia	√					
Washington	√	√				
West Virginia	√	√				
Wisconsin		√				
Wyoming	√					

1 Includes the following responses: refer to faculty committee for guidance, interview student, and other unique or idiosyncratic responses. Some admissions staff offered these responses in addition to other procedures.

2 Totals do not sum to 48 because more than one practice may have been reported in a given state.

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Credit Transfer from Tech Prep Associate's Degree Programs

Tech Prep or "2+2" programs link courses taken in the last two years of high school with a two-year community college program to culminate in a Tech Prep or applied associate's degree. Tech Prep programs may combine applied academics curriculum, context-centered learning, and competency-based assessment.[27] A key goal is to keep postsecondary educational options open for students who want to gain specialized vocational skills in high school by ensuring that students also acquire a solid foundation in academic skills (especially in mathematics, science, and communication). The Tech Prep curriculum seeks to avoid the dead-end of many traditional high school vocational programs: low-skill, low-pay work and foreclosed opportunities for further education. An extension of these programs links to a further two years at a four-year institution and a bachelor's degree in a technical field (2+2+2). These programs often encourage students to gain work experience in their field of training while in school.

Applied associate's degree programs are fairly common in some states (Bender, 1991). However, we found it quite rare for these programs to articulate with baccalaureate programs at flagship universities. In only two states (Arkansas and Tennessee) did respondents say that all courses from applied associate's degree programs fulfill core general education requirements at the flagship institution. In two other states (Virginia and Utah), students receive up to two years' worth of elective credits. At the other extreme, only one respondent indicated that courses from applied associate's degree programs never transfer (Wyoming). In two states (Florida and Vermont), respondents said that they had not seen transfer applicants with Tech Prep or applied associate's degrees.

We found that public flagship universities generally had clear policies about credit transfer from two-year colleges and technical institutes. Among institutions without "all-or-none" policies, the most common approach was to evaluate each course for its comparability to a course offered in their system (29 states); the nub of this review was usually whether the course in question had sufficient theoretical content. Many university staff members expressed skepticism about the rigor of applied courses from two-year colleges, similar to their views of applied academics in high school. In 13 states, flagship universities awarded credit for such postsecondary courses in certain program areas through formal articulation agreements with particular two-year institutions. These agreements facilitate credit transfer and obviate the need for course-by-course review. Some articulation agreements grant students with a completed Tech Prep associate's degree

[27] For a more detailed discussion of these programs, see Hull and Parnell (1991).

the credits equivalent to the first two years of a four-year degree, as well as credit for general education requirements. At six universities, staff mentioned that only certain departments or schools on their campus accepted applied courses for transfer, and they decided which courses would transfer.

Many admissions staff at flagship universities mentioned that less selective institutions might encounter more transfer applicants with this credential. For example, University of California respondents were not aware of links with applied associate's degree programs (though they thought there might be such a program at one UC campus). In contrast, nearly all departments on campuses of the California State University system accept some courses from community colleges, and some of these courses are occupationally oriented. While these may not be formal 2+2+2 programs, this is one indication of the prevalence of links between two- and four-year vocational-technical degrees at nonflagship public institutions. Arizona State University and Long Island University in New York have also pioneered these links, particularly with business degrees (Knoell, 1990).

Differences at Other Public Institutions

Flagship institutions are usually the largest public institution in each state, and they also tend to be the most selective. While they may set a standard that other institutions seek to emulate, they are not representative of all public four-year institutions in a state. As noted in the introduction, by virtue of their prestige, they may also be less likely to innovate or to adapt to reforms at the secondary level. In recognition of this fact, we asked respondents whether they were aware of other public institutions that were more active on these issues.

With respect to curricular reforms at the secondary level, respondents at state agencies or flagship institutions in 13 states said they were aware of other public institutions that were actively addressing these reforms in their admissions procedures. Respondents in 15 states were aware of institutions participating in a 2+2+2 program. These findings support the argument that institutions other than flagships may be more innovative or responsive in dealing with curricular reforms. On the other hand, that respondents in only about one in three states were aware of innovation or adaptation at *any* other public campus suggests one of two possibilities: either adaptation at nonflagship institutions is relatively uncommon, or if it is more widespread, it is relatively unknown to personnel outside those institutions.

CONCLUSIONS

Our findings contain both good news and bad news for reformers. First, the good news: there is evidence that despite their relatively bureaucratic admissions processes, many large public universities are making sincere efforts to accommodate reform. The bad news is that those efforts are not uniform, and that, by and large, they take the form of minimal accommodation rather than innovation and adaptation. More bad news is that our interviews found some confirmation of anecdotal reports of resistance or refusal to accommodate reform.

Policy Talk and Policy Action

While we have expressed some reservations about respondents' interpretation of the term "formal policy," it is instructive to compare the prevalence of policies and of current policy review for the different reforms. This gives us an indication of the areas where public higher education has found it necessary to respond to reform.

Personnel at only four flagship institutions said they frequently see any of the secondary school curriculum reforms examined in this study. Nevertheless, these reforms have proven sufficiently problematic for admissions offices that many institutions or higher level agencies (depending upon the locus of policy authority for admissions) had either developed or were reviewing policies for handling such reforms in the admissions process. Looking across all three reforms, respondents at 35 states' flagship institutions reported that a policy was in place for handling instances of these reforms, and respondents in 12 states said these reforms were the subject of current policy review (of which nine already had policies in place according to our institutional respondents) (Table 4).

By the numbers, integrated courses have generated the most policy action: 27 states with some formal policy in place, and eight states where the policy for handling these cases was under review (two of which were among those with a formal policy at present). Existence of policy does not mean positive accommodation; however, of the 27 states where respondents reported a formal policy, eight flagship institutions never count integrated courses toward requirements, and five rarely do so. At the other extreme, flagships in two states with policies in place routinely count them.

Both formal policy and policy review were less common for the other reforms. Interdisciplinary courses offer the least challenge to conventional admissions practices: the subject matter comes from academic disciplines, and schools still report grades and Carnegie units (unless other reforms have changed their practices). This is confirmed by their degree of acceptance: respondents at 24 flagship institutions reported that interdisciplinary courses often or always count toward requirements. Indeed, the fact that respondents at four flagship institutions reported interdisciplinary courses as rarely or never counting toward requirements is an indication of the rigidity of admission procedures on some campuses. Of the 18 flagship institutions where admissions personnel reported that a formal policy was in place, ten respondents told us that interdisciplinary courses are often or always accepted toward requirements, and two said they are rarely or never accepted.[28] Respondents in three states said the policy for handling interdisciplinary courses was under review.

Unconventional transcripts (including but not limited to competency-based assessments) have generated the least policy action, at least in terms of scope: admissions personnel on 11 flagship campuses reported that a formal policy was in place. Of these, nine said they increase their reliance on test scores to make up for missing information. (This may be in combination with other strategies, such as to seek more information from a school.) In five states, institutional- or state-level respondents reported some form of current policy review (one of which was among the 11 states with a policy in place).

In another sense, however, competency-based reforms have generated the most policy action by stimulating attempts to re-engineer the admissions process in order to accommodate the reform. Two states have genuinely embraced the reform by developing new admissions procedures to use performance-based assessments, and other states are also exploring alternative admissions procedures. These experiments involve fundamental changes to the admissions process itself, and they will be important indicators of the prospects for designing an admissions process that truly accommodates this reform.

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[28] The number of states with formal policy where courses are often or always accepted increases to 11 when reports of formal policy by state-level respondents are included.

Table 4

Summary of Policy Status with Respect to Selected Reforms in 48 States*

	Interdisciplinary courses		Integrated courses		Unconventional transcripts		Any	
	Policy in place	Policy review	Policy in place	Policy review	Policy in place	Policy review	Policy in place	Policy review
Total	18	3	27	8	11	5	35	12
Alabama	√		√		√		√	
Alaska	√		√		√		√	
Arizona								
Arkansas	√		√		√		√	
California	√		√				√	
Connecticut	√						√	
Delaware								
Florida	√		√		√		√	
Georgia		√	√				√	√
Hawaii			√				√	
Idaho			√				√	
Illinois			√				√	
Indiana	√			√			√	√
Iowa				√		√		√
Kansas			√				√	
Kentucky								
Louisiana			√				√	
Maine			√		√		√	
Maryland		√			√	√	√	√
Massachusetts			√				√	
Michigan								
Minnesota								
Mississippi								
Missouri		√		√	√		√	√
Montana	√		√			√	√	√
Nebraska				√				√
New Hampshire								
New Jersey	√		√				√	
New Mexico	√					√	√	√
New York	√		√				√	
North Carolina			√				√	
North Dakota	√		√		√		√	
Ohio	√		√				√	
Oklahoma			√				√	
Oregon	√		√		√		√	
Pennsylvania				√	√		√	√
Rhode Island	√						√	
South Carolina	√						√	
South Dakota			√	√			√	√
Tennessee			√				√	
Texas								
Utah								
Vermont	√		√		√		√	
Virginia								
Washington			√				√	
West Virginia	√		√	√			√	√
Wisconsin				√		√		√
Wyoming			√				√	

* Policy presence is based on responses by those responsible for implementing policy (usually admissions personnel at flagship institutions), while policy review represents a combination of responses by personnel at insututions and other agencies (segment offices, system offices, or coordinating boards). Respondents may have interpreted questions about the presence of a formal policy in various ways.

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Degrees of Acceptance and Accommodation

Given the relative infrequency with which admissions personnel encounter these reforms, it is not surprising to see that most offices have adopted a simple bureaucratic response: rather than modify their procedures to fit the new types of courses and assessments, they generally attempt some form of "translation" whereby the new forms are converted to familiar ones, leaving the admissions process itself unchanged. In the language of organizational decisionmaking, this is a "satisficing" solution, whereby new problems are converted to problems previously solved, then the previous solution is applied (March & Simon, 1958). Thus, we find admissions personnel adopting a series of procedures that allow them to equate interdisciplinary and integrated courses to those on the list of requirements, or to convert narrative assessments to conventional grades. That said, it is encouraging that public institutions—archetypal large, impersonal bureaucracies—appear to have resisted the simplest bureaucratic response of all, which would be to routinely exclude courses and transcripts that defy conventional classifications. A common reaction to the ambiguity generated by these reforms was to seek additional information from schools and students, reflecting a genuine desire to get an accurate picture of a student's preparation.

It is revealing that when asked about unconventional transcripts, admissions personnel often cited their practices for handling home-schooled students or international students. When schools that implement performance-based assessments report those results in addition to conventional grades and Carnegie units, there are no incentives for admissions personnel to attend to the new forms of assessment. More worrisome, however, is the widespread response when the conventional information is not available: increased reliance on standardized test scores. This suggests that advocates of performance-based assessment are truly in a bind. By reporting conventional measures in addition to the new assessments, they render the new forms superfluous; however, by eliminating the conventional measures, they run the risk that the new assessments will *still* be ignored, and that standardized test scores will be used instead. Again, the outcomes of experiments with competency-based admissions will have important implications for the prospects of genuinely accommodating this strand of reform in the admissions process.

With respect to transfer from Tech Prep or applied associate's degree programs, we found a range of practices within the context of well-defined credit transfer policies. While

flagship institutions in a few states routinely grant credit to students transferring from these programs (and one routinely refuses to do so), in most states, the practice was based on individual evaluation of courses or articulation agreements with specific two-year colleges. Both our interviews and our review of the literature suggest that this is an area where greater accommodation may exist at campuses other than the flagship institutions.

Implications for Reformers

Our findings suggest that reformers' intuitions about the rigidity of admissions procedures may be correct, but not always for the reasons expected. In general, reforms that simply tinker at the margins of conventional classifications are most likely to be accommodated, but such accommodation will minimize the change to existing admissions practices. Reforms that fundamentally challenge or that reject conventional classifications, however, are far less likely to be accommodated in the admissions process.[29]

This is more than mere arrogance or conservatism on the part of higher education institutions. Both schools and higher education institutions face considerable constraints due to the broad "choice set" of higher education institutions available to students and the heterogeneity of reform implementation in schools. Even when a state's public institutions act aggressively to embrace reform (as in the case of Oregon), the realities of the admissions process constrain schools: as long as students apply to private institutions and to public institutions in other states, schools will face pressure from students, parents, and institutions to produce transcript information that the other institutions expect. From the institutions' perspective, the variety of reform movements and even the range of implementation of any given reform across schools raises serious questions about the feasibility of modifying their procedures to accommodate the full spectrum of reform as realized in schools.

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[29] This is entirely consistent with Tyack and Tobin's (1994) interpretation of why some reforms endure and others do not.

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APPENDIX: METHODOLOGY

Organization of the Interviews

Interviewers gathered information on university admissions practices using a structured telephone interview, in which most questions were open-ended. The first of two main sections collected background information on each state's higher education system. The second focused on policies and practices for evaluating high school records that included interdisciplinary or applied academics courses or that lacked grades and Carnegie units. More specifically, in the first section of the interview, we collected general information on each state's public university system and the administration of the admissions process; the name of the state's flagship institution; whether the state had minimum curriculum requirements for admission to its public universities; whether the admissions process was administered at the campus, segment, or system level; which office decided whether specific courses on transcripts satisfied curriculum requirements; and under what circumstances a student who had not met the curriculum requirements might still be admitted to a public university.

The remainder of the interview focused on admissions policies and practices. The first group of items addressed policy on unconventional school records (those without grades or Carnegie units). We asked how often the respondent encountered unconventional transcripts and what was the most common practice for evaluating these applicants. Second, the interview covered policy on interdisciplinary courses—those that combine two or more academic fields. Again, we asked how often the respondent encountered such courses on transcripts; how they evaluated whether these courses counted toward curriculum requirements (in states with subject-specific requirements); and how often such courses were actually applied toward the requirements. Third, we asked the same series of questions about courses that integrate academic and vocational material. The final group of items addressed transfer admissions. We gathered information about transfer of credits from applied or Tech Prep associate's degree programs.

Selecting Institutions

In every state, the answers to many of the questions posed by this study could be answered only by personnel at the institutional level. This raises the issue of sampling: there is substantial variation in the number of public four-year institutions in different states, from states with one or two institutions (e.g., Delaware, Nevada, and Wyoming) to states with 40 or more institutions (e.g., New York, Pennsylvania, and Texas). The scope of this study permitted interviewing staff from a single institution in each state, rather than a representative sample or comprehensive census of institutions. There are several ways to approach the sampling problem, each with associated costs and benefits.

A simple or stratified random sampling scheme might be appropriate for a study that permitted interviews at several institutions in a state: a sample representing different types of public institutions (e.g., state colleges as well as research universities) would afford a reasonable picture of practices in place throughout a state system. Randomly selecting a single institution in each state, on the other hand, undermines the comparability of information across states that is necessary for an overview of practices across states. Even multiple-institution sampling remains problematic: differences in the number of public four-year institutions in each state introduce questions of how to represent each state's system adequately.

A purposive sampling scheme, on the other hand, involves intentionally selecting comparable institutions across states. This approach permits comparisons across states and characterizing practices in a given type of public institution. We chose this approach at the cost of capturing variation in practices that might exist across different types of institutions.

After careful consideration, we decided to focus on each state system's flagship institution. These schools generally enroll more undergraduates than other public institutions, and they often set a standard that other public institutions seek to emulate. While these are strong reasons to focus on the flagship as a way of representing a state's public four-year institutions, one must also acknowledge the potential costs. Flagship institutions are typically more selective than other public institutions and thus have higher admissions standards. These high standards correspond to applicant pools with more conventional college-preparatory high school programs. Moreover, because they are generally larger than other public four-year institutions, their admissions staffs may have

larger caseloads. For all of these reasons, flagship institutions may be less likely than other public institutions to be flexible or innovative in their undergraduate admissions procedures. This study does not paint a comprehensive picture of admissions practices in public higher education. Rather, it focuses on practices at the institutions that enroll the most students and that often set the example for other institutions in a state's system of higher education.

Identifying Respondents

Identifying individuals who could best answer the interview questions was often a multistep process, since the entities responsible for setting admissions policies and implementing those policies varied across states. Usually there was no single person who could answer all questions: while state agency or coordinating board personnel tended to be most helpful in describing the higher education system and in discussing admissions policies under statewide review, those who implemented the policies and made actual admissions decisions were most familiar with the practices in place. Thus, we first identified who could answer the broader questions about statewide curriculum requirements and where admissions decisions are made and then interviewed that person. Next, we identified people who could provide insight into actual admissions and credit transfer decisions; most often these were senior staff members in the admissions office of the flagship institution.[30] In most cases, at least two people were interviewed in order to answer our full range of questions.

In every state, we first called a contact person at the higher education coordinating board (HECB), state board of education, or other body that oversees public four-year institutions. We identified contacts at these agencies using several sources: the Education Commission of the States' *State Postsecondary Education Structures Handbook* (McGuinness, Epper, & Arredondo, 1994), OERI's *Raising Standards: State Policies To Improve Academic Preparation for College* (Flanagan, 1992), and the 1994 and 1995 Almanac editions of *The Chronicle of Higher Education*. Respondents at the state level typically answered only questions in the first section of the interview. In some states, the initial contact could only provide the name of the flagship institution, and referred us there

[30] In some states, two universities vied for "flagship" status, in which case the one with the larger enrollment was considered to be the flagship.

or to its university system office for answers to all other questions. (When a respondent was reluctant to name a single flagship institution, we asked the respondent to identify the institution with the largest enrollment.)

In all states except California (where admissions policies and guidelines for the University of California are developed by the system office), we asked a representative of the flagship institution's admissions office most of the questions.[31] In states with separate coordinating offices for two or more university segments (e.g., both the University of Arkansas and Arkansas State University systems), the interviewer often contacted the segment office that governed the flagship institution when referred by the state-level respondent. Finally, since actual admissions decisions were made at each campus, the interviewer contacted the flagship institution. In most cases, an admissions counselor or supervisor (e.g., an associate admissions director) at the state's flagship university answered the substantive questions about admissions practices that formed the bulk of the interview. In addition, in two states, a second institution was contacted because the respondent at the flagship was aware of another public institution with more experience in evaluating unusual transcripts or courses. In sum, we contacted 48 state-level governing bodies, 8 system offices, and 50 institutions in a total of 48 states.

Coding and Data Checking Procedures

Interviewers noted responses during the interviews on standard interview forms, which were then coded. First, the interviewers developed a template to facilitate coding the notes into discrete categories. Some items were structured to have only a single response, while others permitted multiple responses. For open-ended items, we defined categories for responses that were cited by several respondents. A coder then coded the interview notes, directing questions to the interviewers when responses were unclear. The coded data was then entered into a spreadsheet to facilitate analysis.

To check the accuracy of the data, one of the two interviewers carefully reviewed coding sheets against notes taken during the interviews for the questions that specifically pertain to the issues of this report: where decisions were made about accepting courses;

[31] The exceptions were Colorado and Nevada, where we were unable to gain cooperation by personnel at the flagship institution.

how often instances of specific reforms were encountered in the admissions process; and practices for handling unconventional transcripts, interdisciplinary courses, and integrated courses. Before making any corrections in the database, the two interviewers agreed about appropriate coding.

Problems Encountered and Potential Sources of Error

Errors may have entered into the data at a number of stages. First, some respondents may have answered beyond their immediate knowledge or expertise (e.g., they may have stated as fact an assumption about what other staff members or another office does in a given situation). We found most respondents eager to participate, and in some cases, they may have wanted to appear more knowledgeable than they were. Second, some respondents may have misinterpreted a question and answered a different one without our knowledge (differing terminology might cause errors of this sort). Third, we may have misinterpreted what they said. Fourth, the coder may have misinterpreted what was on the interview forms or entered an incorrect code into the database. While we have cleaned coding errors for the most central questions through careful review, inaccuracies of the first three types cannot be detected post-hoc.

Respondents had varying degrees of familiarity with these educational reform issues, which also complicated the interviews. In states such as New York, where broad school reform is being implemented in high schools, admissions staff were aware of shifts toward using performance-based evaluations or integrated curriculum, and could discuss their procedures for handling them at length. In other states, however, respondents found some reforms unfamiliar. (In such states, a standard practice or policy may not have been developed.)

Discussing school reform is also complicated by the lack of a common language to describe new programs, courses, and practices. Many people used "integrated" to mean "interdisciplinary academic"; a term like "Tech Prep associate's degree" was often unfamiliar; and even a term like "governing board" may have meant different things to various respondents. Different institutions or even different individuals in the same institution defined terms according to their conventional use in their workplace. Although

the interviewers frequently provided definitions of terms, misunderstandings about terminology may have nevertheless occurred.

We took steps while interviewing to ensure accuracy. Assessing the knowledge base of an initial respondent, stopping the interview when questions fell out of that person's jurisdiction or expertise, and completing the interview with another respondent (often at another institution or office) proved useful in many instances. On the other hand, it was often difficult for interviewers to assess the knowledge of a respondent. Some respondents may have answered questions based on assumptions about how things should work, rather than on their first-hand experience with admissions decisions.

On occasion, responses about state-level practices appeared to contradict responses about institution-level practices. For example, a state agency that oversees higher education may have reported that integrated courses could be counted toward curriculum requirements. Individual institutions in that state (such as the flagship), however, may have additional policies governing the kinds of courses that qualify a student for admission. Thus, an admissions officer at the flagship university may have reported that integrated courses never apply toward curriculum entrance requirements. These responses might appear to be contradictory, but both responses can logically coexist (if other institutions in the state accept some integrated courses while the flagship does not). While this type of difference might seem analytically useful, comprehensive comparisons of institution- and system-level practices are not feasible because in most cases we were referred to individual campuses for these questions.

We generally interviewed at least two people per state. Although data from each contact were recorded separately, the information was then reduced to one response per state per question. These responses came from the level where the decisions are actually made about how to count courses and evaluate unconventional transcripts—in almost all cases, the admissions office of the flagship institution. Tables 1-3 report data from these respondents only. Table 4, which presents findings on policies in place and under review, uses data from both institution- and state-level respondents.